Relationships between the Symptomatology and Neuropsychology of Schizophrenia: Three, Five, Eleven, or a Greater Number of Valid Syndromes?

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This thesis contains no material which has been accepted for a degree or diploma by the University of any other institution, except by way of background information and duly acknowledged in the thesis; and to the best of my knowledge and belief no material previously published or written by another person except where due acknowledgement is made in the text of the thesis.

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Abstract

The marked heterogeneity between individuals diagnosed as experiencing schizophrenia has troubled nosologists since the very coining of the term. Catalysed by Crow's (1980) hypothesis of independent 'positive' and 'negative' syndromes, which led to substantial breakthroughs in our comprehension of schizophrenia, the last two decades have seen a resurgence of interest in the characterisation of symptom dimensions to resolve the issue of heterogeneity. A three-dimensional model, comprising 'psychotic', 'negative' and 'disorganised' syndromes has received considerable research attention and has been proposed for inclusion in the Diagnostic and Statistical Manual of Mental Disorders. Similarly, a five-dimensional model, adding syndromes of 'affective disturbance' and 'excitement', has also attracted an increasing profile of literature. Mounting evidence suggests, however, that these models do not adequately reflect the diversity of symptoms seen among those with a diagnosis of schizophrenia, and that they may emerge as an artefact of lossy factor-analytic techniques applied to measurement models biased or inadequate in their coverage of symptoms. To overcome such limitations, in the present study one hundred in- and out- patients diagnosed with schizophrenia were assessed for symptoms using a comprehensive series of assessment scales. Additionally, participants completed a battery of neuropsychological tests tapping five aspects of attention, and smooth pursuit eye tracking was also recorded. Using cluster analyses to examine correlations between symptoms, eleven groups of symptoms were identified: 'hostility', 'conceptual disorganisation', 'bizarre behaviour', 'grandiosity', 'auditory hallucinations', 'loss of boundary delusions', 'paranoia', 'anxious intropunitiveness', 'cognitive dysfunction', 'negative signs' and 'social dysfunctions'. All groupings were internally consistent, largely independent of others, and supported by other symptom models

proposed in the literature. Several of the symptom groupings were validated by demonstration of independent relationships with neuropsychological variables or aspects of eye movements, and the more complex symptom model was equivalent or superior in the prediction of neuropsychological performance than the three- and five- factor symptom models.

Implicit in dimensional approaches to conceptualising schizophrenia is the notion that the identified groupings may reflect the functioning of distinct brain systems. This thesis has demonstrated that the 'syndromes' defined by the three- and five- dimensional models of schizophrenia are actually heterogeneous groupings of poorly correlated symptoms. This, in turn, obscures the relationships between symptoms and underlying pathology. Dimensional approaches to psychopathology hold great promise for unravelling the nature of psychosis. However, the existing facile descriptions may actively constrain the potential for research progress. The rigorously developed description of symptomatology presented here represents a compact and useful representation of the spectrum of symptoms experienced in schizophrenia, and has demonstrated an advantage over existing conceptions that demands implementation and vigorous research attention.

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Table of Contents

List of Tables

List of Figures